Technology Governance Board

Definition of Information Technology Infrastructure

Information technology infrastructure underpins the distributed operational and administrative computing environment. Hidden from the application-based world of end-users, technology infrastructure encompasses the unseen realm of *protocols*, *networks,and middleware* that bind the computing enterprise together and facilitate efficient data flows. Yet information technology infrastructure involves more than just the mechanics of data systems; it also includes people providing support and services.

Our information technology strategic plan for technology is not a rigid document. Turnover in technical systems is often rapid and changes can be unpredictable. The goals of the strategic plan must be flexible enough to embrace the unforeseen. Nonetheless, we can identify certain infrastructure elements needed to support the goals for information technology.

Information technology infrastructure is a distributed technical framework in support of user and enterprise computing. By examining the three priorities of the IT Strategic Plan:

- Provide a state-of-the-art information technology infrastructure
- Advance information technology in support of learning and discovery
- Support the development of simplified business processes and services for students, faculty and staff

we could infer the role of technology infrastructure is to support the computing priorities defined for the governmental entities it serves. But that view would be too narrow. Technology itself opens new possibilities, and the introduction of new technologies can innovate existing educational and business processes. Recognizing this synergy, the ***mission*** of technology infrastructure is actually two-fold:

To provide a robust technical framework for user and enterprise computing, and to broaden state government's capabilities for applying information technology within the enterprise.

It follows that the ***vision*** for information technology infrastructure is also two-fold:

To develop a state-of-the-art technical infrastructure, and to support a culture of innovation that expands government's technological horizons.

The ***goals*** support this vision.

Information Technology Infrastructure Goals

The goals for technology infrastructure are grouped by programmatic area. Within each area, goals are listed without rank except as noted.

Coordination among Executive Branch Information Systems

Protocols and systems are needed to facilitate data sharing and collection. New and legacy information systems should integrate and support common protocols for efficient data sharing. The enterprise data warehouse promotes wide collaboration on datasets and can simplify data retrieval for departments, enhance their capabilities, and reduce retrieval costs. The data warehouse also assists in centralized analysis, promoting the development of innovative, "data-based" public programs and policies.

Robust and Reliable Security Infrastructure

A strong security infrastructure protects the privacy and integrity of personal data, and prevents the unauthorized and malicious use of computing resources. A security infrastructure includes centralized services, but also depends on education and awareness in the Executive Branch for its effectiveness. This would include:

- A security infrastructure to support secure authentication
- A range of security self-assessment tools with the necessary promotion and support
- Maintenance of an effective intrusion detection system
- Maintenance of an effective incident response program
- Regular port scanning
- Coordinated management and distribution of security patches
- Coordinated virus detection and spam filtering programs

Telecommunications Infrastructure

E-Government demands ever-increasing bandwidth and network flexibility. Further, the trend for increased utilization of electronic services and increased use of multimedia will shift more resources to on-line delivery mechanisms, providing opportunities for new methods of serving constituents. At the same time, the workplace and individuals will demand greater integration of voice and data.

- Assure reasonably priced high bandwidth capabilities for e-Government.
- Enhance wireless voice and data services
- Maintain reliable network and voice services
- Plan for quality of service data transmission to support voice and video over IP
- Support collaborative computing initiatives for the Executive Branch

Robust and Reliable Middleware Infrastructure

Middleware mediates between disparate applications. It is the essential glue for unifying campus information systems. Its use promotes efficient software design, generates developmental cost-savings, and facilitates consistent interface design by governmental entities. Many reengineered business processes depend on middleware. Examples would be:

- Common authentication
    - *a mechanism for secure single sign-on;*

- *a framework for simplified authentication, authorization, and security management*

- Enterprise directory
  - *an enterprise directory replacing multiple independent, overlapping systems;*
  - *a means for supporting authorization services*

- A consistent applications development and delivery framework
  - *to promote developmental and training cost savings for administrative applications*